(No Model.)

C. P. FLANDERS.

ATTACHMENT FOR MATCHING MACHINES.

No. 429,170. Patented June 3, 1890.

Fig. 1.

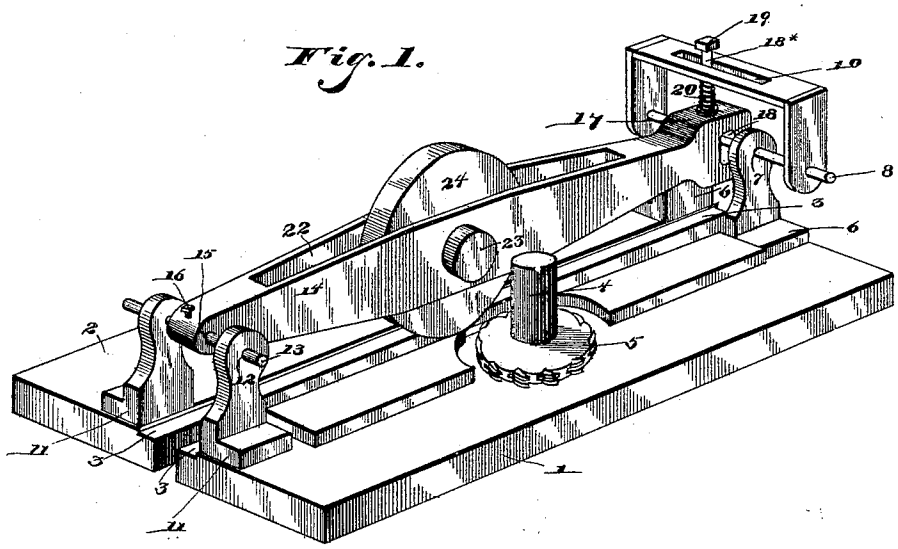
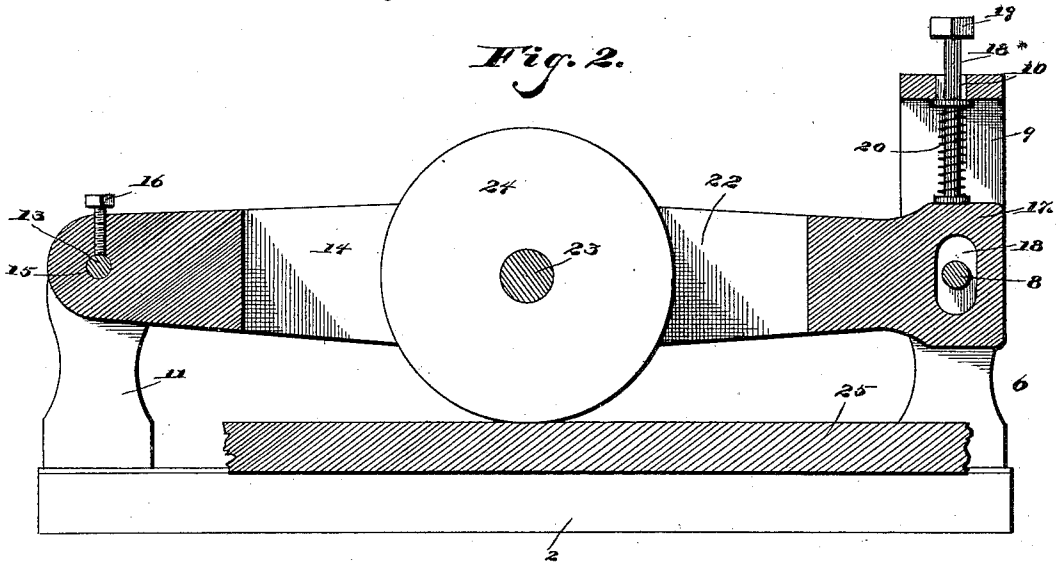


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES P. FLANDERS, OF PARISHVILLE, NEW YORK, ASSIGNOR TO ANNA FLANDERS, OF SAME PLACE.

ATTACHMENT FOR MATCHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 429,170, dated June 3, 1890.

Application filed December 31, 1889. Serial No. 335,560. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. FLANDERS, a citizen of the United States, residing at Parishville, in the county of St. Lawrence and State of New York, have invented a new and useful Attachment for Matching-Machines, of which the following is a specification.

This invention is an attachment for matching-machines; and among the objects in view are to provide a cheap and simple device constructed and adapted to flatten the boards or lumber squarely upon the base or table of the machine at the same time that the lumber is operated upon by the cutter-heads, whereby an even uniform tongue and groove are formed at the opposite edges of said lumber.

It is well-known among wood-workers that especially hard wood when thoroughly seasoned is difficult to evenly match, owing to the fact of its disposition to curl or bend, and for the purpose of thoroughly flattening the lumber at the points thereof as they are operated upon by the cutters of the matching-machine friction-shoes have been employed. These, however, were open to grave disadvantages, arising from the fact that in order to compress the lumber perfectly flat upon the table they must exert a comparatively immense pressure which, while efficient, if the pressure be sufficient yet was extremely damaging to the machinery by which the lumber is fed to the cutters, the strain thereon being excessive.

The object, therefore, of my invention in addition to the above is to increase the pressing-power exerted upon the lumber, so as to insure perfectly-true matching and at the same time to almost wholly obviate any additional strain upon the feed mechanism and to yieldingly mount the compressing agent, so as to readily pass over all obstructions of a solid nature which would otherwise tend to a clogging of the machine.

With the above general objects in view the invention primarily consists in a roller located between the two cutting-heads of the machine and yieldingly mounted in position, and secondarily in other features of construction hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a portion of a matching-machine table provided with an attachment constructed after my invention. Fig. 2 is a longitudinal section of the same, on an enlarged scale.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents the stationary section of an ordinary matching-machine table, and 2 the movable section, which, as is usual, is adapted by suitable mechanism to be adjusted to and from the first-mentioned section, and each of said sections upon their inner upper edges is provided with a track or way 3.

4 represents the vertical spindle or arbors, upon each of which is mounted a cutter-head 5, of the usual construction, one adapted to form a tongue and the other a groove, each spindle being mounted in one of the sections 1 or 2, and having the cutting-periphery of its head projecting into the adjacent way 3. At the front end of the table there is mounted a pair of opposite standards 6, one upon each of the sections 1 and 2, said standards being oppositely perforated, as at 7, and in the same and projecting at each side of the standards is a sliding rod 8.

9 represents an inverted-U-shaped frame, the terminals of which have openings for the reception of the ends of the rod 8, and the upper portion of said frame is provided with a longitudinal slot 10. At the opposite end of the bed or beyond the cutters there is mounted a similar pair of standards 11, having openings 12, in which is mounted a transverse rock-shaft 13.

14 represents a lever or rock arm provided at its rear end with an opening 15, which receives the shaft 13 between its bearings 12, and said rock-arm is provided with a set-screw 16, which adjusts the same upon the shaft at any point between the bearings of the latter. The forward end of the rock-arm is provided with a head 17, and the same is transversely slotted, as at 18, and loosely receives the rod 8. A pin 18* projects upwardly from the head 17 and passes through the longitudinal slot 10 of the U-shaped frame 9, and above the same is provided with a head 19, to prevent a withdrawal of the upper end of the pin from the slot.

20 represents a coiled spring of a sufficient rigidity, and the same is mounted between the head 17 and a vertically-opposite point of the frame 9, the spring encircling the pin and serving, when not otherwise influenced, to draw the head 19 of said pin upon the upper surface of the frame 9.

Intermediate the rod 8 and shaft 13 the rock-arm 14 is provided with an elongated vertical slot 22, extending from near one end to the other of the arm, and passing through the walls of the slot directly between the cutters 5 and their arbors is a transverse shaft 23, and mounted for rotation upon the shaft is a pressure-roller 24, or, if desired, more than one roller may be employed in accordance with the width of the lumber to be operated upon. The roller is removable, and varying sizes may be substituted for the above purpose and to agree with the distance between the cutters, whereby a strip of lumber, as 25, inserted between the standards 6 and under the roller, will have its opposite longitudinal edges pressed perfectly flat and uniformly presented to the cutters, thereby insuring a perfect tongue and groove of the lumber. By reason of the coiled spring it is apparent that a sufficient tension will be exerted upon the lumber to flatten the same, as before mentioned, and the rock-arm being yieldingly pressed will give sufficiently to any stubborn obstacle to prevent a choking or clogging of the feeding mechanism, and the consequent stoppage of the machine.

It is apparent that the details of the invention may be modified and altered in various ways, that will readily present themselves to the minds of persons skilled in wood-working machinery, and in lieu of the spring and as a well-known equivalent therefor, a weight may be substituted, and also other accessories necessary to the substitution.

Having described my invention, what I claim is—

1. In a matching-machine, the combination, with the opposite adjustable table-sections and opposite cutters, one mounted over each section, of opposite pairs of standards arranged at opposite sides of the cutters, a standard of each pair being located on a table-section and each of the standards being provided with bearing-openings, a rock-shaft mounted loosely and for longitudinal movement in the rear pair of standards, a cross-rod similarly mounted in the front standards, a rock-arm spring-pressed and mounted on the rock-arm and provided at its front end with a slot for the passage of the rod, substantially as specified.

2. In a matching-machine, the combination, with opposite adjustable sections and a cutter mounted over each, of a standard mounted on each section in rear of each cutter and opposite each other, and provided with bearing-openings, a rock-shaft mounted loosely in the bearings and so as to permit of a separation of the table-sections, a spring-pressed rock-arm projecting from the shaft, and a wheel journaled in the arm between the cutters, substantially as specified.

3. In a matching-machine, the combination, with the base or table, the opposite cutters, and their spindles, of a pair of standards arranged at one side of the cutters, a rock-shaft journaled in the standards, a rock-arm mounted on the rock-shaft and extending between the cutters, a roller journaled on the rock-arm between said cutters, a head formed on the opposite end of the rock-arm, standards arranged at each side of the same, a rod passed through the standards and through a slot in the head, a frame mounted on the rod and extending over the head and having a slot, a pin projecting through the slot, and the coiled spring encircling the pin and bearing against the frame and head, substantially as specified.

4. In a matching-machine, the combination, with the opposite adjustable table-sections and the opposite cutters located in the same, of opposite standards having bearings in their upper ends, a standard being located upon each of the table-sections, a rock-shaft loosely mounted in the bearings of the standard, a rock-arm having an opening for the reception of the rock-shaft, and a binding-screw for securing the same rigidly thereto, said arm terminating at its opposite ends in a transversely-slotted head, a wheel mounted upon the arm between its ends and opposite the cutters, opposite standards arranged at each side of the head of said arm and provided with bearings, a transversely-movable rod mounted in the bearings and having its ends extending beyond the same, a U-shaped frame having its terminals provided with openings for the reception of the ends of the rods and provided with a longitudinal slot in its upper end, a headed pin projecting from the head of the arms and projecting through said slot, and a coiled spring encircling the pin and interposed between the head and frame, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES P. FLANDERS.

Witnesses:

H. J. FLANDERS,

E. B. TICHENOR.